

Karnal Bunt *Tilletia indica*

Karnal bunt (KB) is a fungal disease that affects wheat, durum wheat and triticale. Initially, the disease was discovered near Karnal, India in 1931. It was first detected in the United States in 1996, within the State of Arizona. KB thrives in cool, moist temperatures as the wheat is starting to head out.

Fungal spores are windborne and can be spread easily through the soil. Uncontaminated grain can also become infested after passing through or being transported by contaminated equipment. Spores have the ability to survive within the soil for several years, given favorable conditions. Controlling the transportation of contaminated seed is essential to prevent KB from spreading to major production areas.

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Montana ranked third in all wheat production in accounting for 8.0 percent of the U.S. wheat production, surpassed only by Kansas and North Dakota. Although North Dakota outpaced Montana durum wheat production, Montana still produced percent of the nation's durum wheat, ranking second among states in durum wheat production. Montana ranked third in other spring wheat production.



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Bunted Wheat

Credits: R. Duran, Washington State
University www.forestryimages.org

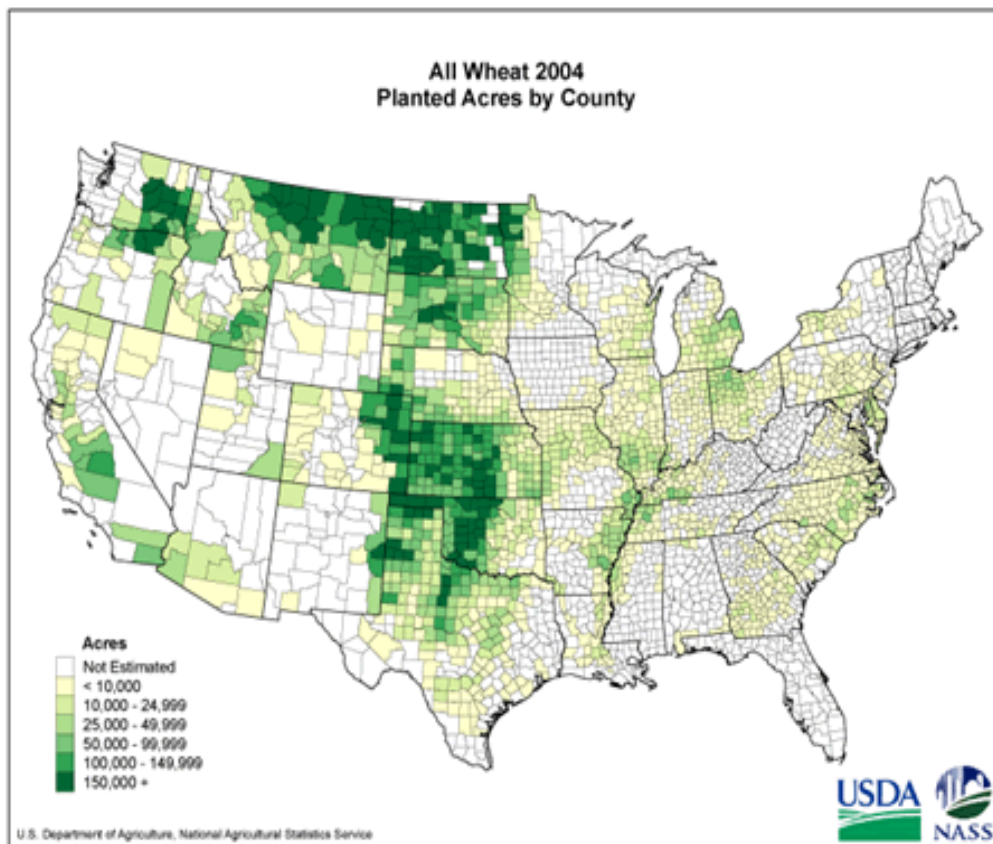
Montana's Rank in the Nation's Wheat Production

ITEM	UNIT	PERIOD OR DATE	RANK	% U.S. Total
CROP PRODUCTION				
All Wheat	173,165,000 bushels	2004	3	8.0
Winter Wheat	66,830,000 bushels	2004	5	4.5
Durum Wheat	17,985,000 bushels	2004	2	20.0
Other Spring Wheat	88,350,000 bushels	2004	3	15.5
Barley	48,970,000 bushels	2004	3	17.5

www.nass.usda.gov/mt/pressrls/misc/mtrank.htm

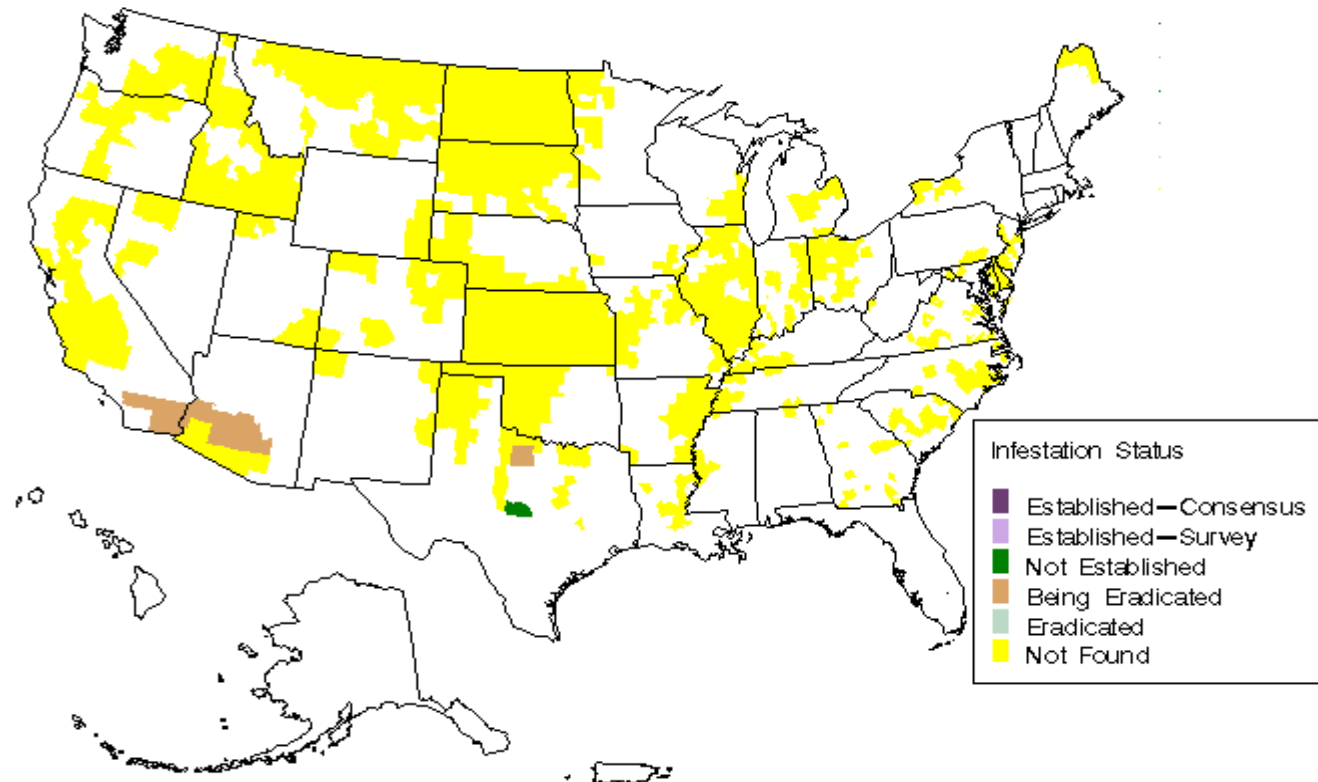
Montana continued to sample for Karnal Bunt during the 2005 harvest season. A total of 119 samples were collected in 31 counties throughout Montana. The USDA Laboratory in Olney, Texas conducted the testing. All samples tested negative for the presence of Karnal bunt. This sampling is critical for wheat growers in Montana. It confirms our wheat is free from KB, ensuring access to export markets.

Wheat All Value of production for 2005		
State Rank	State	Value of production
1	Kansas	1,254,000 thousand dollars
2	North Dakota	1,074,981 thousand dollars
3	Montana	696,537 thousand dollars
4	South Dakota	480,861 thousand dollars
5	Washington	476,005 thousand dollars



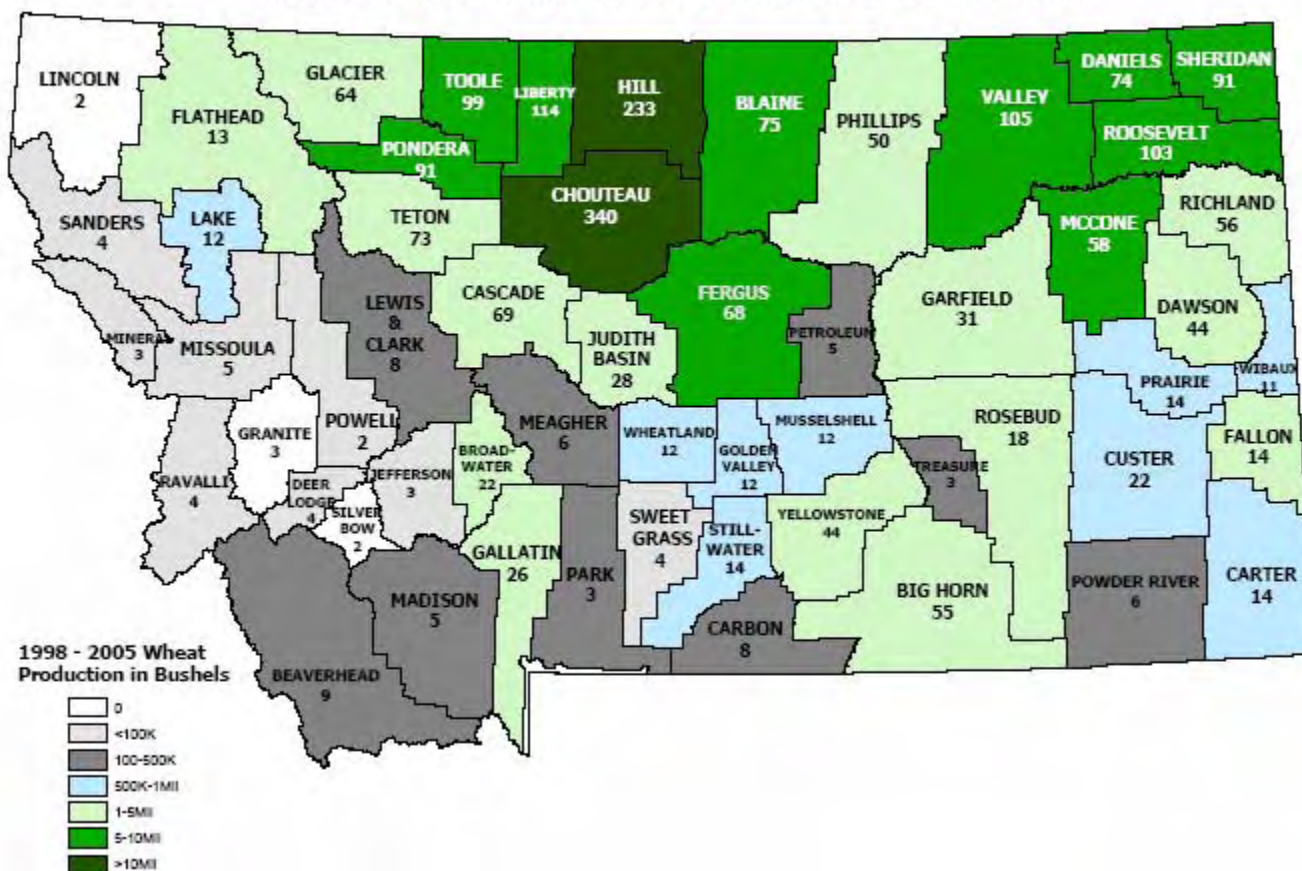
Reported Status of
KARNAL BUNT , TILLETIA (NEOVOSSIA) INDICA
in US and Puerto Rico

Data retrieved from National Agricultural Pest Information System on 03/02/2006



The Center for Environmental and Regulatory Information Systems does not certify the accuracy or completeness of the map. Negative data spans over last 3 years only.

Number of Karnal Bunt Samples Per County, 1996 - 2005 Compared to Average Wheat Production, 1998 - 2005



Karnal Bunt Samples - 1996 through 2005												8 Year Average Production
County	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total # Samples	1998 through 2005
Granite	0	1	0	0	1	0	1	0	0	0	3	0
Lincoln	0	1	0	0	0	0	1	0	0	0	2	0
Silver Bow	1	1	0	0	0	0	0	0	0	0	2	0
Deer Lodge	1	1	0	0	1	0	1	0	0	0	4	5,500
Powell	1	1	0	0	0	0	0	0	0	0	2	8,333
Mineral	1	1	0	0	0	0	1	0	0	0	3	34,833
Sanders	1	1	0	1	0	1	0	0	0	0	4	43,000
Jefferson	1	1	0	0	0	0	1	0	0	0	3	53,250
Sweet Grass	1	1	0	1	0	1	0	0	0	0	4	55,533
Ravalli	1	1	0	1	0	1	0	0	0	0	4	63,329
Missoula	1	1	1	1	0	1	0	0	0	0	5	82,666
Carbon	3	3	0	1	0	1	0	0	0	0	8	213,167
Park	1	2	0	0	0	0	0	0	0	0	3	317,084
Treasure	1	2	0	0	0	0	0	0	0	0	3	323,667
Meagher	2	2	0	0	1	0	1	0	0	0	6	328,250
Powder River	2	4	0	0	0	0	0	0	0	0	6	395,667
Petroleum	1	3	0	0	0	1	0	0	0	0	5	437,667
Madison	1	3	0	0	0	1	0	0	0	0	5	444,250
Beaverhead	2	3	1	1	1	1	0	0	0	0	9	449,167
Lewis & Clark	2	4	0	0	1	0	1	0	0	0	8	462,834
Custer	3	5	4	2	3	2	2	0	1	0	22	573,417
Golden Valley	3	5	1	0	1	0	1	0	1	0	12	632,250
Lake	3	5	1	0	1	0	1	0	1	0	12	679,917
Musselshell	3	5	1	1	0	1	0	0	1	0	12	740,500
Stillwater	4	7	1	1	0	1	0	0	0	0	14	750,334
Carter	3	5	1	1	0	1	1	0	1	1	14	775,000
Prairie	2	6	1	1	0	1	1	0	1	1	14	821,417
Wheatland	4	5	1	0	0	0	1	0	0	1	12	849,534
Wibaux	2	7	0	0	0	0	0	0	1	1	11	853,000
Karnal Bunt Samples - 1996 through 2005												8 Year Average Production
County	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total # Samples	1998 through 2005
Fallon	2	7	0	1	0	1	0	1	1	1	14	1,042,584

Flathead	3	4	1	1	0	1	0	1	1	1	13	1,270,417
Rosebud	6	8	0	0	1	0	0	1	1	1	18	1,271,167
Broadwater	7	8	1	0	1	0	1	1	2	1	22	1,634,667
Yellowstone	11	14	5	2	2	3	2	2	1	2	44	2,305,417
Judith Basin	6	10	2	1	1	1	1	2	2	2	28	2,523,584
Garfield	6	13	2	1	1	1	1	2	2	2	31	2,583,417
Gallatin	6	10	1	1	1	1	0	2	2	2	26	2,822,167
Glacier	17	25	5	2	3	2	3	2	3	2	64	3,396,500
Phillips	17	15	3	2	1	2	1	3	3	3	50	3,840,667
Big Horn	18	19	3	1	2	1	2	3	3	3	55	3,929,334
Dawson	5	21	3	2	1	1	1	3	4	3	44	4,081,917
Richland	10	23	4	2	2	1	2	4	4	4	56	4,593,167
Teton	17	26	7	4	3	4	3	3	2	4	73	4,940,167
Cascade	19	23	5	3	2	3	2	4	4	4	69	4,991,167
Pondera	23	30	9	4	5	4	4	4	4	4	91	5,698,334
Toole	28	36	8	4	4	4	4	4	3	4	99	5,711,334
Blaine	23	25	4	2	2	2	2	5	5	5	75	5,841,167
Liberty	34	38	10	5	5	4	5	4	5	4	114	6,093,917
McCone	6	25	4	2	2	2	2	5	5	5	58	6,330,584
Daniels	17	30	3	1	2	1	2	6	6	6	74	6,477,834
Fergus	17	21	5	2	3	2	3	5	5	5	68	6,653,917
Valley	28	34	8	4	4	4	4	7	5	7	105	8,629,667
Sheridan	22	34	4	2	2	2	2	8	7	8	91	9,067,417
Roosevelt	23	36	7	3	4	3	4	8	7	8	103	9,846,834
Hill	72	72	19	10	9	10	9	10	11	11	233	13,645,500
Chouteau	74	81	22	11	12	11	11	12	13	13	340	18,694,750
TOTALS	568	775	158	85	85	85	85	112	118	119	2190	157,989,250